



Written By: Jake Devincenzi



## INTRODUCTION

We find ourselves in possession of a brand new Mac mini with promise of "2x faster everything" and the new [Thunderbolt I/O](#). Naturally, we had to take a look inside, just like we did with the new [MacBook Air](#) earlier today.

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### TOOLS:

- [Mac Mini Logic Board Removal Tool](#) (1)
  - [Phillips #00 Screwdriver](#) (1)
  - [iFixit Opening Tools](#) (1)
  - [Spudger](#) (1)
  - [T6 Torx Screwdriver](#) (1)
  - [T8 Torx Screwdriver](#) (1)
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## Step 1 — Mac mini Mid 2011 Teardown



- We received some big promises with the introduction of this new Mac mini. The most exciting included:
  - Core i5 & i7 Processors
  - 500 & 750 GB HDD or 250 GB SSD
  - 2GB or 4GB DDR3 SDRAM
  - AMD Radeon HD graphics processor with 256MB of GDDR5 memory (2.5 GHz models only)
  - Thunderbolt and HDMI ports
  - SDXC card slot
- Apple removed the optical drive from this mini, but would characteristically love to [sell you one for an additional \\$79](#).

## Step 2



- Model Number A1347... This feels a little bit like [déjà vu](#).
- The mini's port layout seems only slightly different from [last year's mini](#):
  - Built-in 10/100/1000BASE-T Ethernet
  - FireWire 800
  - HDMI
  - Thunderbolt
  - Four USB 2.0 Ports
  - SDXC card slot

## Step 3



- After a few finger pushups and a firm twist, we get our first glimpse of the innards.
- They look rather identical to the previous model...

## Step 4



- The first thing out the hole? The fan.
- No surprises here. The new mini has the same fan as the old mini, and even the older mini.
  - Sticking with the brushless, high blade density blower, this single fan is quiet and effective.

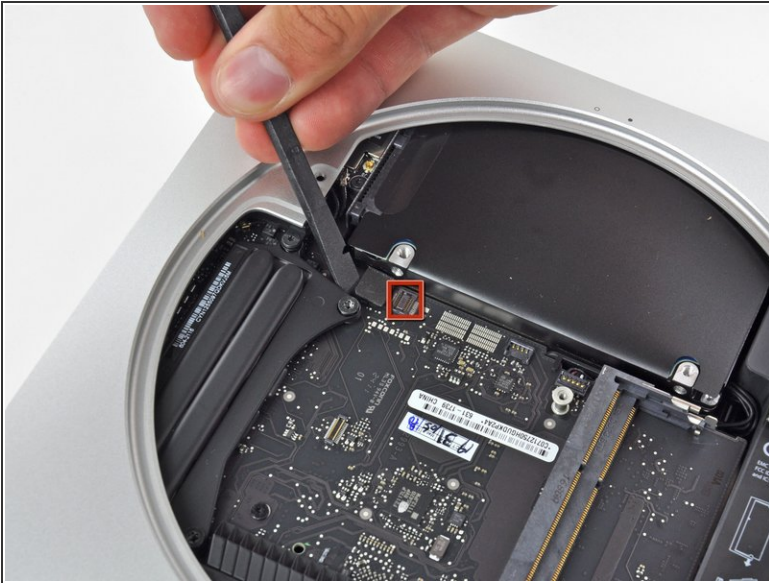


## Step 5



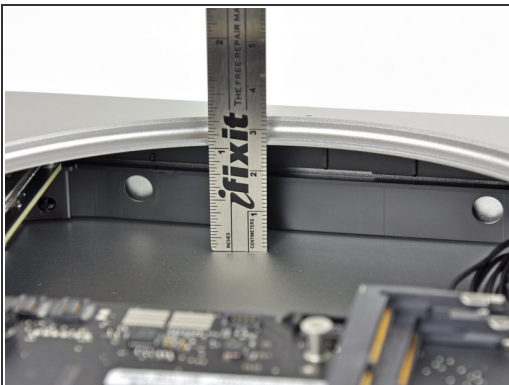
- Four T8 Torx screws hold the Wi-Fi antenna plate in place, an easy victory for iFixit's [54 Piece Bit Driver Kit](#).
- With a little wiggle this-a-way and a little wiggle that-a-way, we remove the antenna plate.
  - ❗ **WOW!** Look at that-- the plate is identical to the one from last year. We like to imagine what else you could do with a [grill like that](#).

## Step 6



- A couple screws and a connector and the hard drive is out, revealing a whole lot of, well, nothing.
- But wait-- was that an empty hard drive cable port next to it?

## Step 7



- The big question with this unibody mac Mini: "Can I install a second hard drive myself?" The [centimeter and a half](#) of extra space seem to imply so.
- There is definitely plenty of room for a second hard drive underneath the first. The only deterrent is the availability of a second, longer SATA hard drive-to-logic board cable.
- **i Update:** We include that cable in our [Mac mini Mid 2011 Dual Hard Drive Kit](#).
- Let's get the logic board out so we can get a better look.

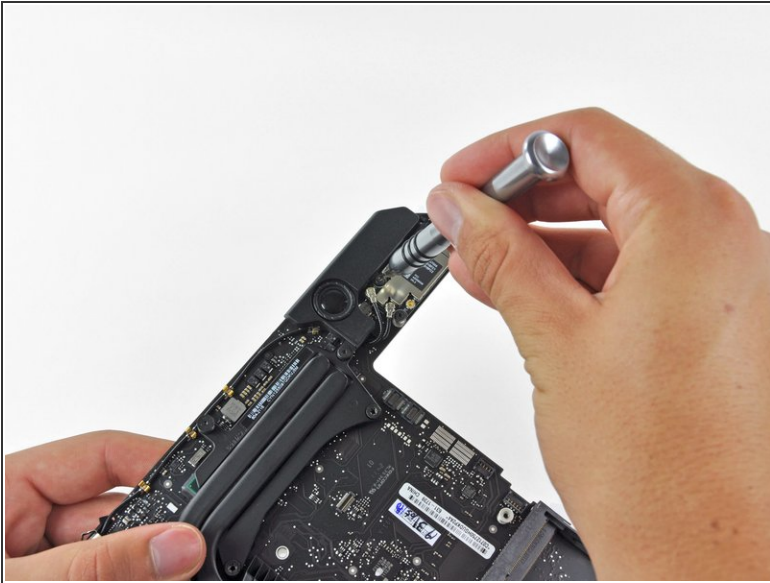
## Step 8



- The release of the new Mac mini means the return of our favorite tool: the [Mac mini Logic Board Removal Tool](#)! Luckily, we have come prepared this time.
- No longer forced to use two screwdrivers, we insert our Mac mini Logic Board Removal tool, and it does the trick. The logic board assembly slides right out of the aluminum unibody.
- With the logic board removed, we see how a second hard drive could be installed.

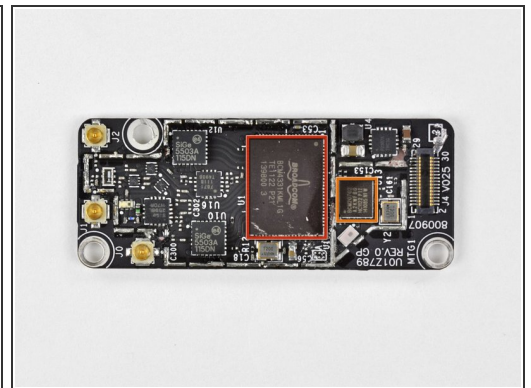
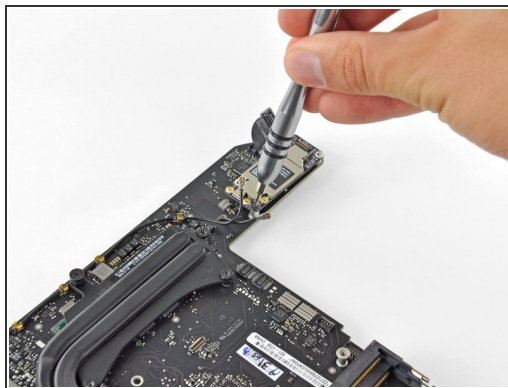
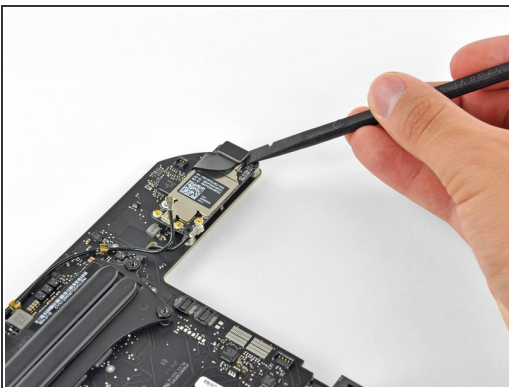


## Step 9



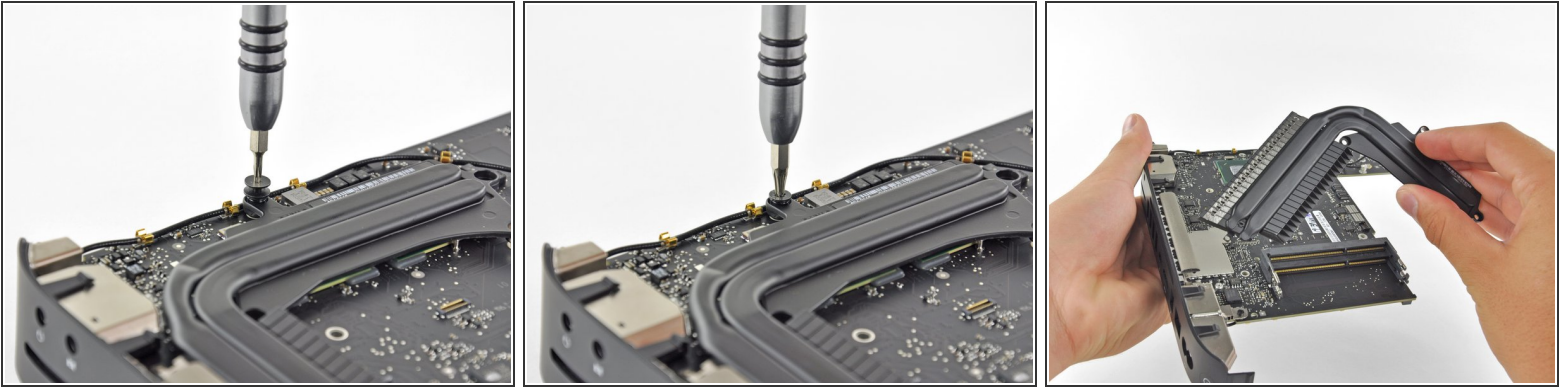
- Two T6 Torx screws hold the speaker in its place on the logic board.
- With the speaker removed, this Mac mini can no longer ~~bump-fat-bass~~ beep at you.

## Step 10



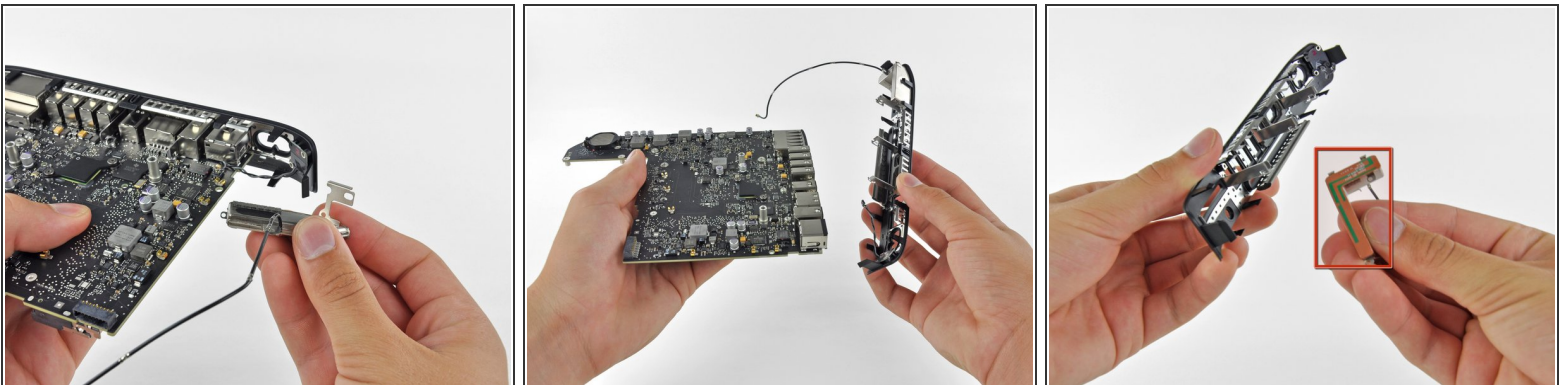
- Our trusty [spudger](#) makes quick work of the Wi-Fi board's cables.
- More T6 screws hinder our path, but we will not be deterred.
- 802.11n connectivity is possible thanks to a Broadcom [BCM4331](#) "single-chip wireless solution."
- The Broadcom [BCM20702](#) Single-Chip Bluetooth 4.0 Processor with [Bluetooth Low Energy](#) (BLE) support is identical to the chip found in the [13" MacBook Air](#) we just took apart.

## Step 11



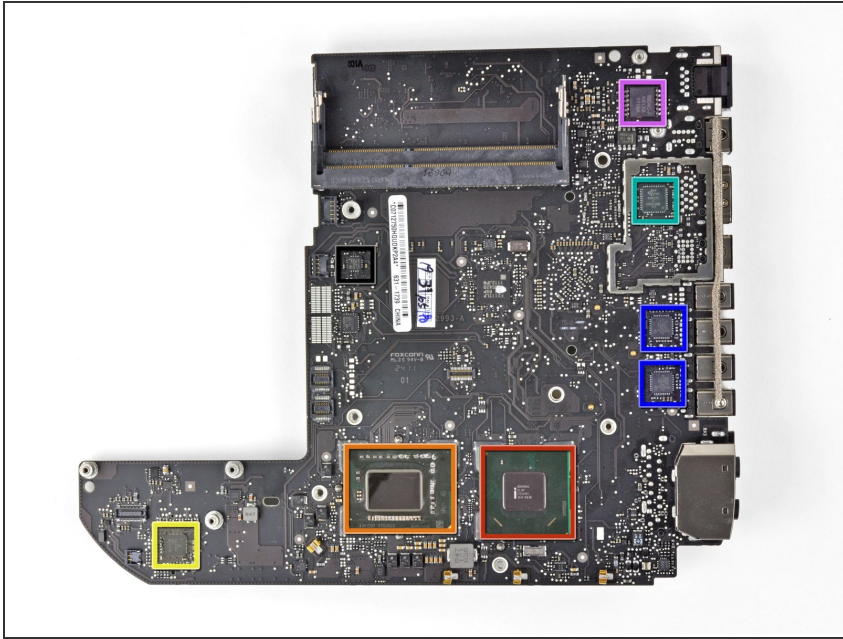
- Just like in the previous Mac mini, the heat sink is held in place by a bunch of spring-loaded T8 screws.
- Some of the screws were a little different, though. We found T6 screws that were screwed into the top of T8 screws. A [screw within a screw](#) . . .

## Step 12



- After de-routing a couple cables and unscrewing a few #00 Phillips screws, we were able to remove two antennas and the I/O wall from the logic board.
- The antennas are attached to the plastic I/O wall since wireless signals don't transmit well through metal.
- Ah ha, we meet again [L-block](#).

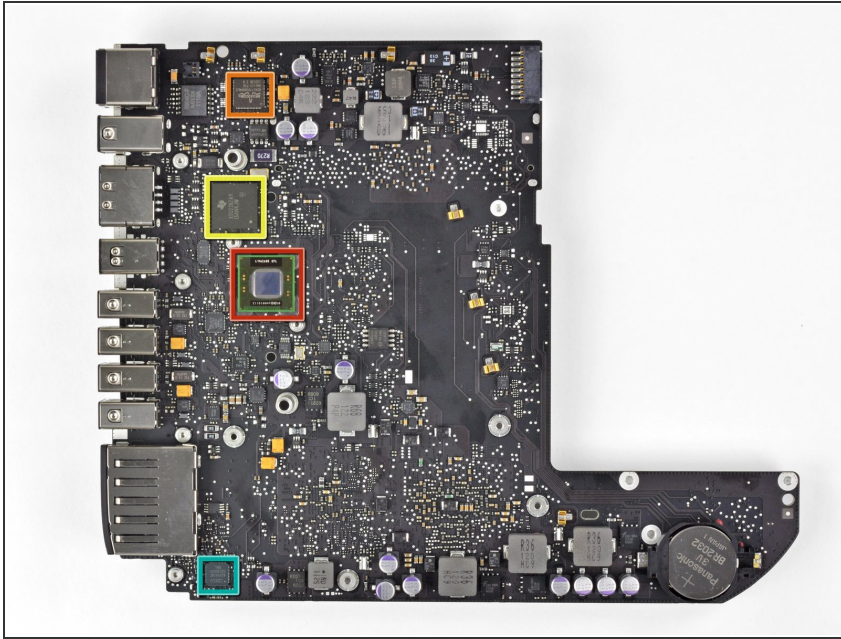
## Step 13



- Main ICs on the underside of the logic board:
  - Intel [BD82HM65](#) Platform Controller Hub
  - Intel V116A068 2.3 GHz Dual-Core i5
  - Intersil [ISL6364](#) Dual PWM Controller
  - Parade [PS8171](#) HDMI/DVI Level Shifter
  - SMSC [USB2513B](#) USB 2.0 Hub Controller
  - DELTA 8904C-F Filter
  - SMSC [1428-7](#) System Management Bus temperature sensor

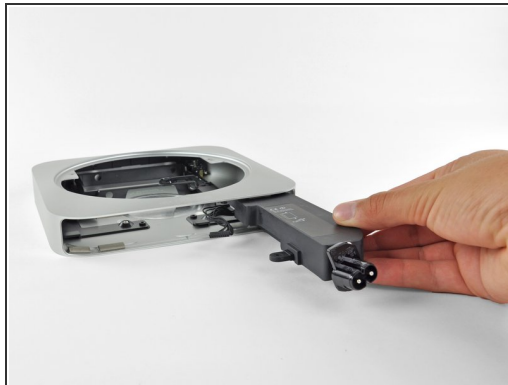


## Step 14



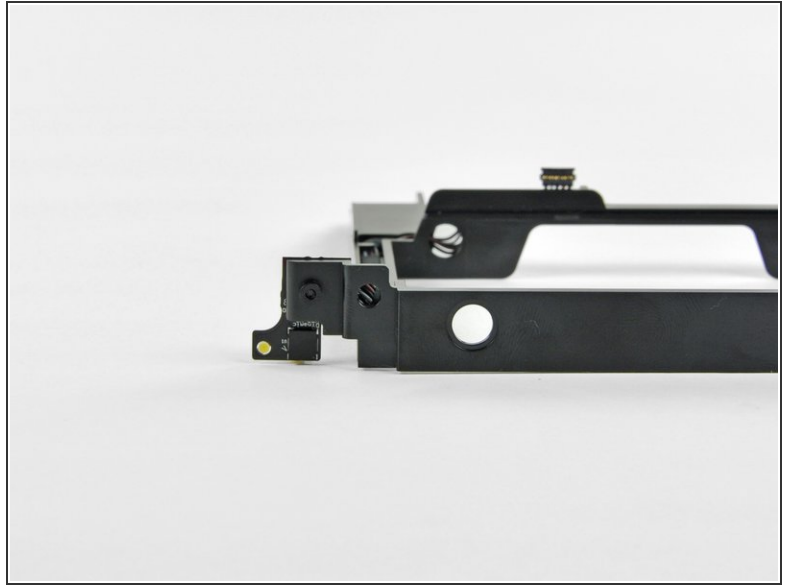
- Big players on the top side of the logic board include:
  - Intel L116IA35 Thunderbolt port controller IC, similar to that found on the [Early 2011 21.5" iMac](#)
  - Broadcom [BCM57765](#) gigabit ethernet and memory card controller
  - Texas Instruments XIO2211 FireWire Controller
  - Cirrus Logic 4206B Audio Controller

## Step 15



- One T6 screw holds the power supply in place.
- After removing a small metal bracket and twisting the AC power-in port, the power supply slides right out through the mini's empty front.
- Look familiar to you, too? Good, then it's not just us.

## Step 16



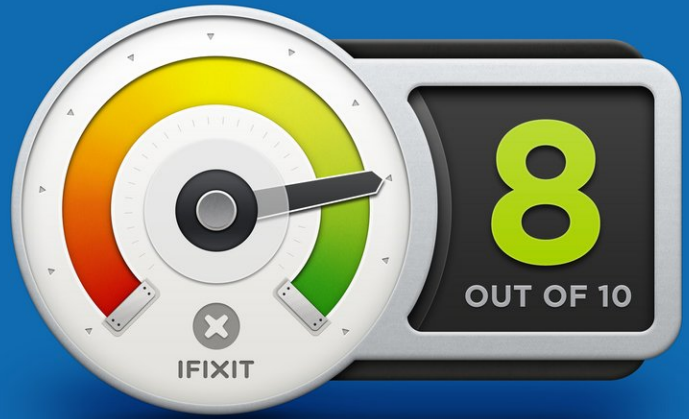
- One more T6 screw and we can pull the IR sensor/receiver from the optical drive-- what? No optical drive? To make room for the additional hard drive option, Apple has removed the optical drive from this year's mini and replaced it with some good old-fashioned emptiness.
- The IR sensor stares straight into the depths of our souls. Sorry buddy, you won't find your lost optical drive here.



## Step 17



### REPAIRABILITY SCORE:



- Mac mini Mid 2011 Repairability: **8 out of 10** (10 is easiest to repair).
  - No proprietary screws are found within the device.
  - You can easily upgrade your RAM and hard drive, as well as add a secondary drive.
  - There's no glue anywhere inside that needs to be removed while disassembling the mini.
  - The CPU is soldered to the logic board and not user-upgradeable.
  - While not difficult to do, you still have to remove almost all the internals in order to replace the power supply.

To reassemble your device, follow these instructions in reverse order.